NWS Form E-5 U.S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION NATIONAL WEATHER SERVICE **MONTHLY REPORT OF HYDROLOGIC CONDITIONS**	**HYDROLOGIC SERVICE AREA:** Pocatello, Idaho (PIH) **REPORT FOR:** **MONTH:** April **YEAR:** 2017
TO: Hydrologic Operations Division, W/OH2 National Weather Service National Oceanic and Atmospheric Administration Silver Spring, Maryland 20910	**SIGNATURE** Travis Wyatt Service Hydrologist / Acting **DATE:** May 17, 2017
When no flooding occurs, include miscellaneous river conditions, such as significant rises, record low stages, ice conditions, snow cover, droughts and hydrologic products issued (NWS Instruction 10-924).	

☐ **An X in this box indicates that *no* flooding has occurred for the month within this hydrologic service area.**

Overview:

Precipitation picked up again with a large area of our HSA seeing above normal precipitation. Our most Eastern, Southern and Northwestern areas received 150 to 400 precent of normal percipitation. Monthly total rainfall was 5.03 inches at the Ashton COOP station and 4.46 at the Idaho Falls (Bone) CO-OP station. There were 6 daily precipitation record for our 5 climate locations. Burley had 3, Pocatello had 2, and Stanley had 1. Most of the area had temperatures 0 to 3 degrees below normal with Butte, Clark and Western Freemont Counties receiving temperatures near to slightly above normal. The five climate stations ranged from -0.2 (Burley) to -1.4 (Challis) below normal. There were no temperature records for our 5 climate locations. Mean average temperatures ranged from 31 degrees F for Stanley to 48 degrees F for Bellevue across the HSA.

The Portneuf river in Pocatello remained in minor flood stage the whole month reaching moderate flood stage briefly once, with only minor to moderate field/park flooding reported. The Bear river in Bear Lake county remained high staying in minor flood stage most of the month, just coming off its peak at the end of March. Mostly minor to moderate field flooding and minor road flooding was reported. At the beginning of the month, the Magic reservoir continued going over the spillway at a high rate. This continued moderate flooding of the Big Wood just below the Magic reservoir causing the main road to the Magic reservoir to be flooded for a few days early in the month. Some other minor field and road flooding was reported as well.

As far as the short-term 8 to 14 day Climate Prediction Center Outlook is concerned, the eastern Idaho forecast is for 33 to 40 percent chance for above normal temperatures. For the 8 to 14 day outlook for precipitation, there are equal chances for above or below normal precipitation for Eastern half of our area and a 33 to 40 percent chance of below normal precipitation for our Western half. The one-month forecast graphics are below. For the three-month outlook, the temperature forecast is a 33 to 40 percent chance to be above normal. As for three-month outlook for precipitation, the outlook is equal chances for above or below normal precipitation pattern across most of Eastern Idaho. Only the extreme Northeast corner has a 33 to 40 percent chance for above normal precipitation.

Of the data available for the month, the stations (non-SNOTEL and non-RAWS) within the HSA reaching the highest 24-hour temperatures were Preston and Shoshone COOP stations reaching 74°F and 73°F respectively on the 13th and 12th respectively. The station (non-SNOTEL and non-RAWS) with the lowest recorded temperature were the Stanley and Island Park COOP stations at 3°F and 7°F respectively on the 9th and 2nd

respectively. The highest recorded 24-hr precipitation (non-SNOTEL) occurred at the Driggs (COOP), Soda Springs (CoCoRaHs), Grace (CoCoRaHs), Downey (COOP), and Pocatello (CoCoRaHs) where 2.72, 1.71, 1.45, 1.37, and 1.36 respectively fell on the 28th for Grace and on the 8th for the rest of the sites. The highest recorded monthly precipitation totals (non-SNOTEL) occurred at the Ashton, Idaho Falls (Bone), and Lava Hot Springs COOP stations where 4.68, 4.46, and 4.00 inches respectively fell. All basins were above normal ranging from 150 to 190 percent of normal. The basins receiving the greatest precipitation were the Big Lost abv Mackay, Big Lost, Little Wood, Big Wood abv Hailey and the Big Wood receiving 187%, 182%, 179%, 174%, and 173% of average precipitation respectively for the month of April-based on SNOTEL data.

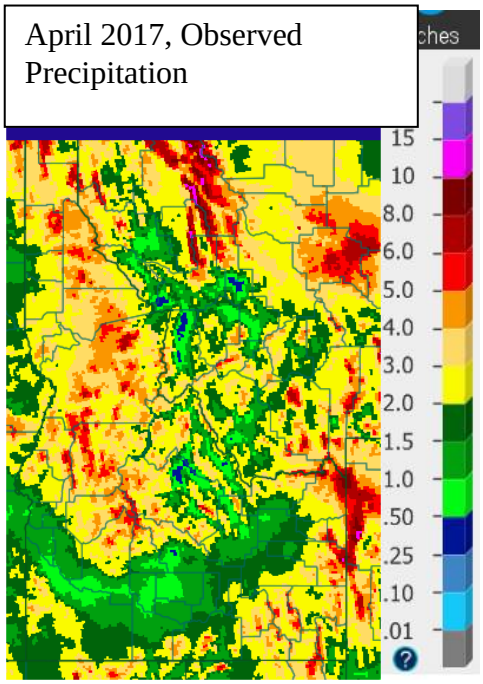
Reservoirs last month overall remained constant in the upper Snake River basin system and is currently sitting at 68% of capacity overall. Compared to last year at this time, it was about 83% of capacity. According to the Natural Resources Conservation Service and U.S. Bureau of Reclamation reservoir data, the most notable decrease in storage capacity was the Bear Lake, Oakley, Blackfoot, Island Park and American Falls reservoirs decreasing percent capacity by 17%, 13%, 12%, 9% and 9% respectively. The U.S. Bureau of Reclamation and canal companies have continued releasing water for select reservoirs in preparation for the remaining flood season. Mackay, Palisades, and Jackson increased storage by 9%, 9%, and 8% respectively. Only Milner reservoir remained unchanged, all other reservoirs showed slight decreases in storage capacity. The Oakley, Blackfoot, and Magic reservoirs currently have the highest percent of average at 166%, 150%, and 142% respectively, and Palisades, Mackay, and Little Wood reservoirs have at the lowest at 37%, 51% and 59% of average respectively.

Current streamflow conditions in eastern Idaho are much above normal for most of the area and high for the Bear river and the Upper Snake River plain, for mainly the Snake from Blackfoot to the Wyoming Border (see USGS streamflow graphic below).

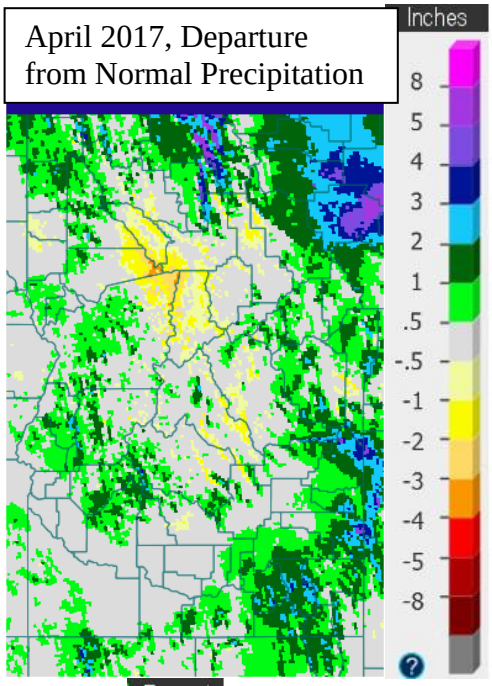
Because of well above normal seasonal precipitation and cooler temperatures, drought conditions across eastern Idaho continue to be 0 percent in April as reflected on the latest U.S. Drought Monitor. The latest update of the U.S. Seasonal Drought Outlook shows no change for the eastern Idaho's drought outlook forecast.

Precipitation:

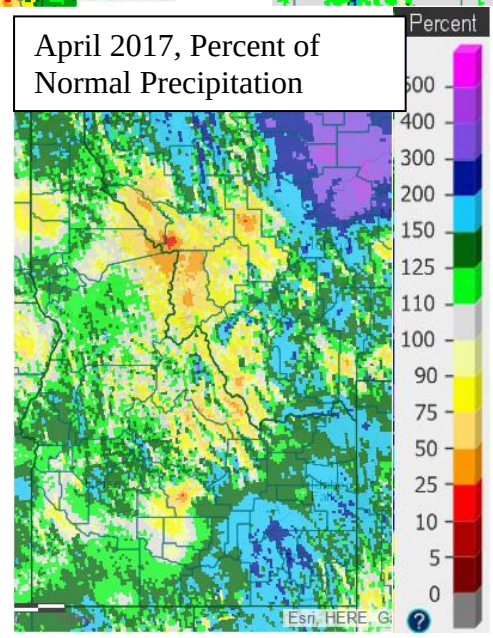
April 2017, Observed Precipitation



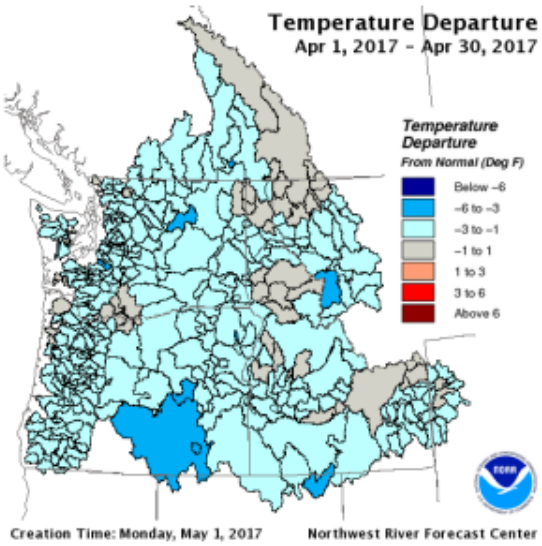
April 2017, Departure from Normal Precipitation



April 2017, Percent of Normal Precipitation



www.water.weather.gov/precip/#



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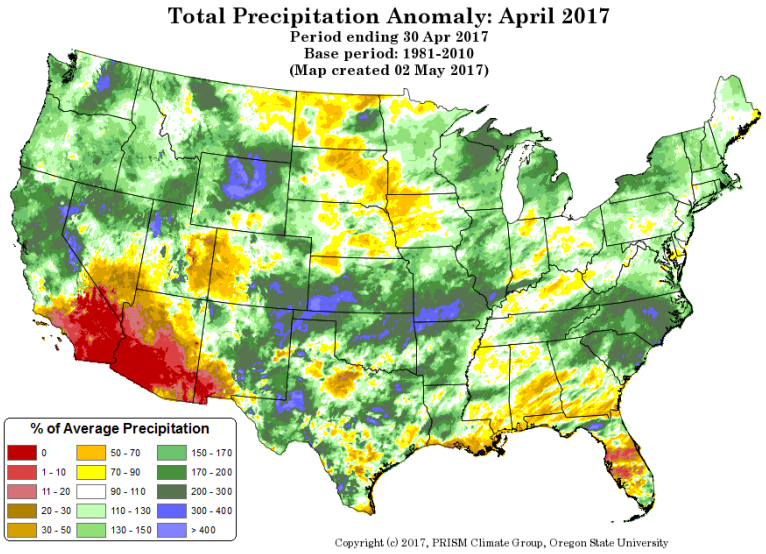
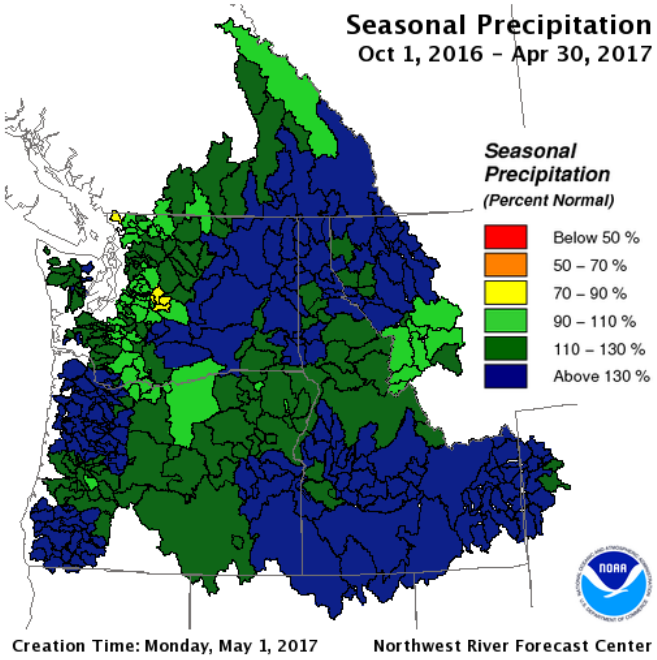


http://prism.oregonstate.edu/comparisons/anomalies.php



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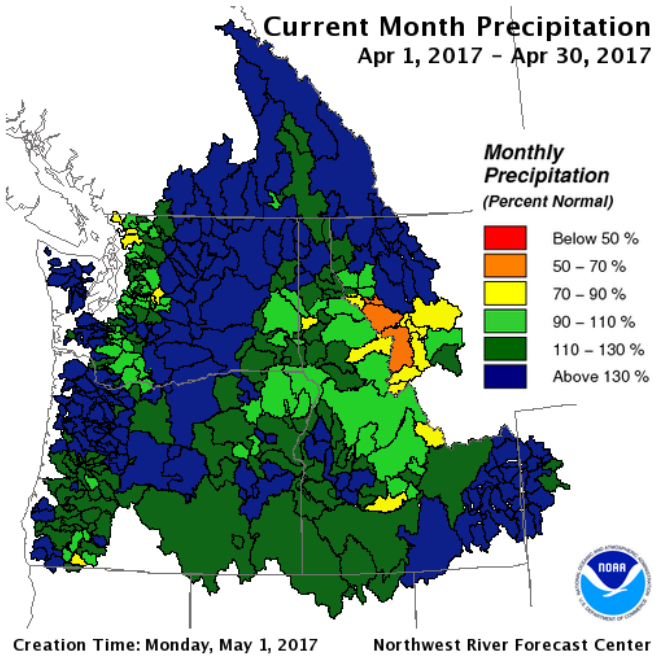

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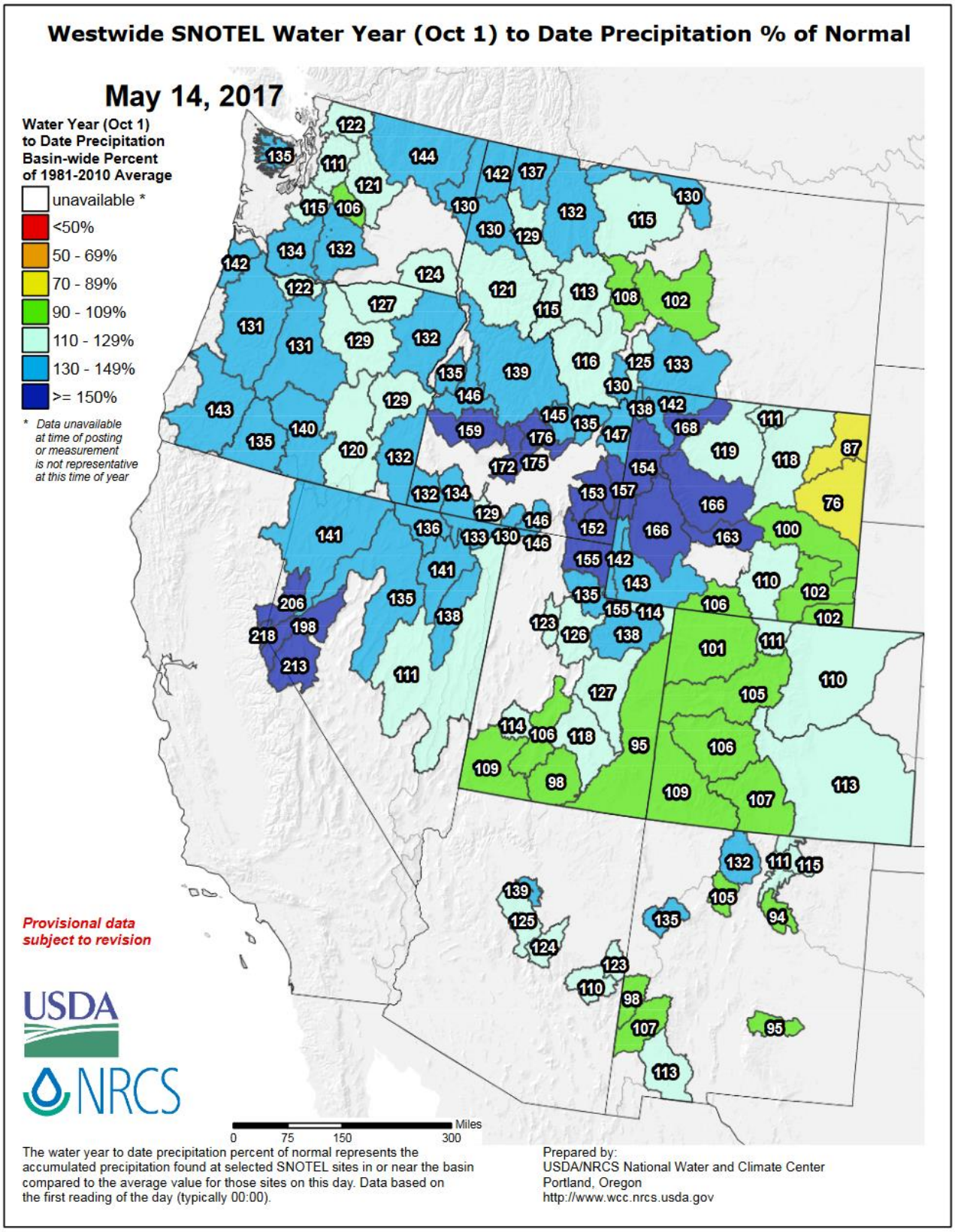
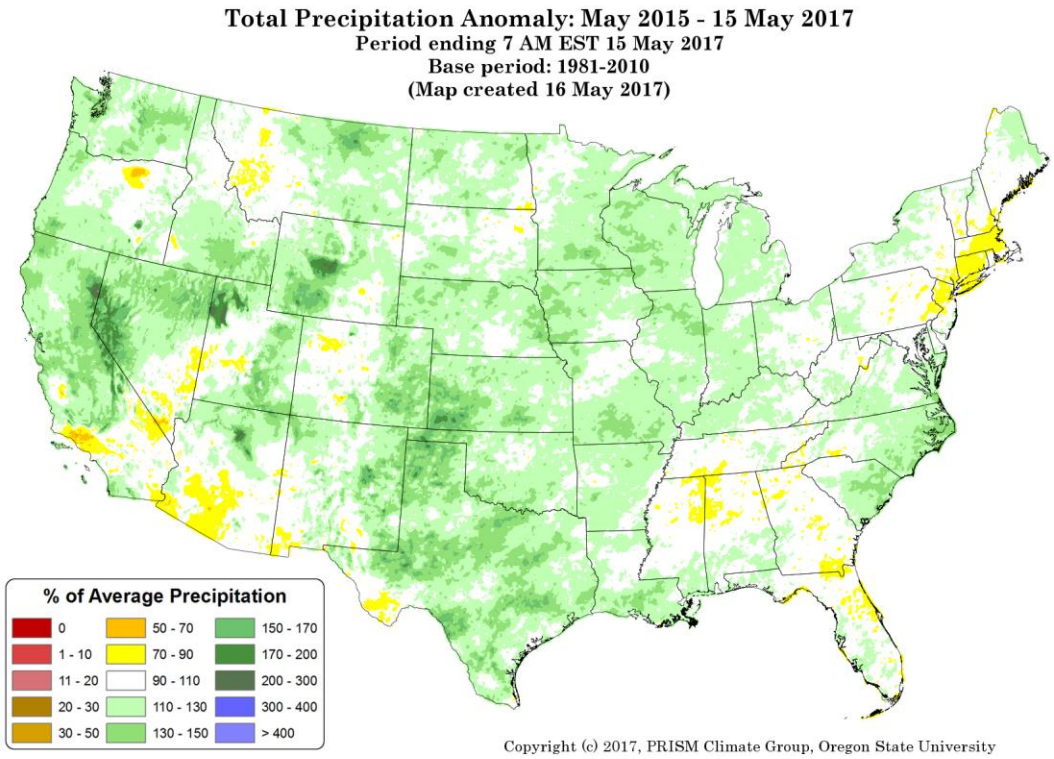
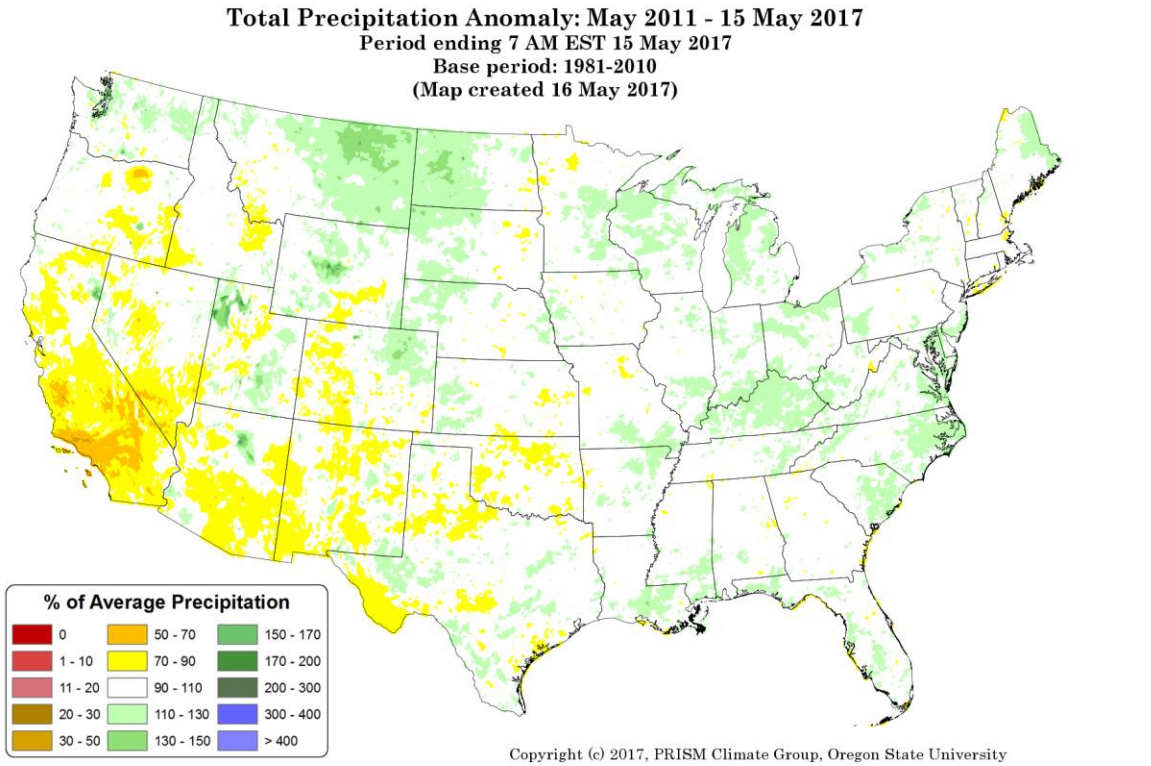


http://www.wcc.nrcs.usda.gov/ftpref/data/water/wcs/gis/maps/west_wytdprecpctnormal_update.pdf

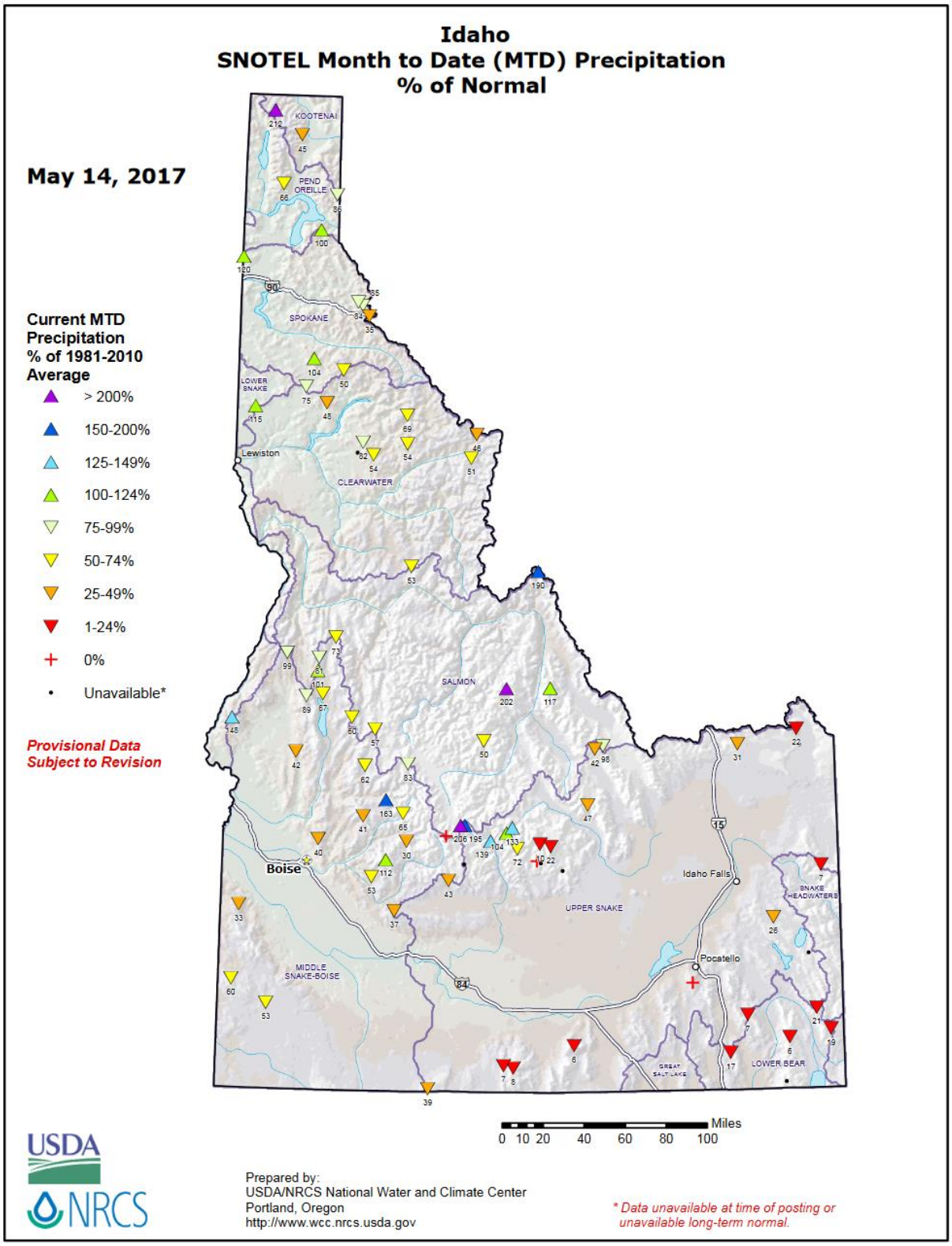
Past 2 Years of Precipitation % of Average:



Past 6 Years of Precipitation % of Average:



www.prism.oregonstate.edu/comparisons/drought.php



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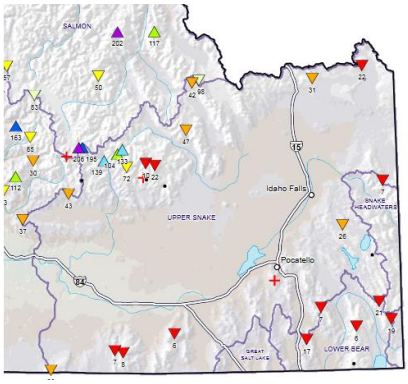
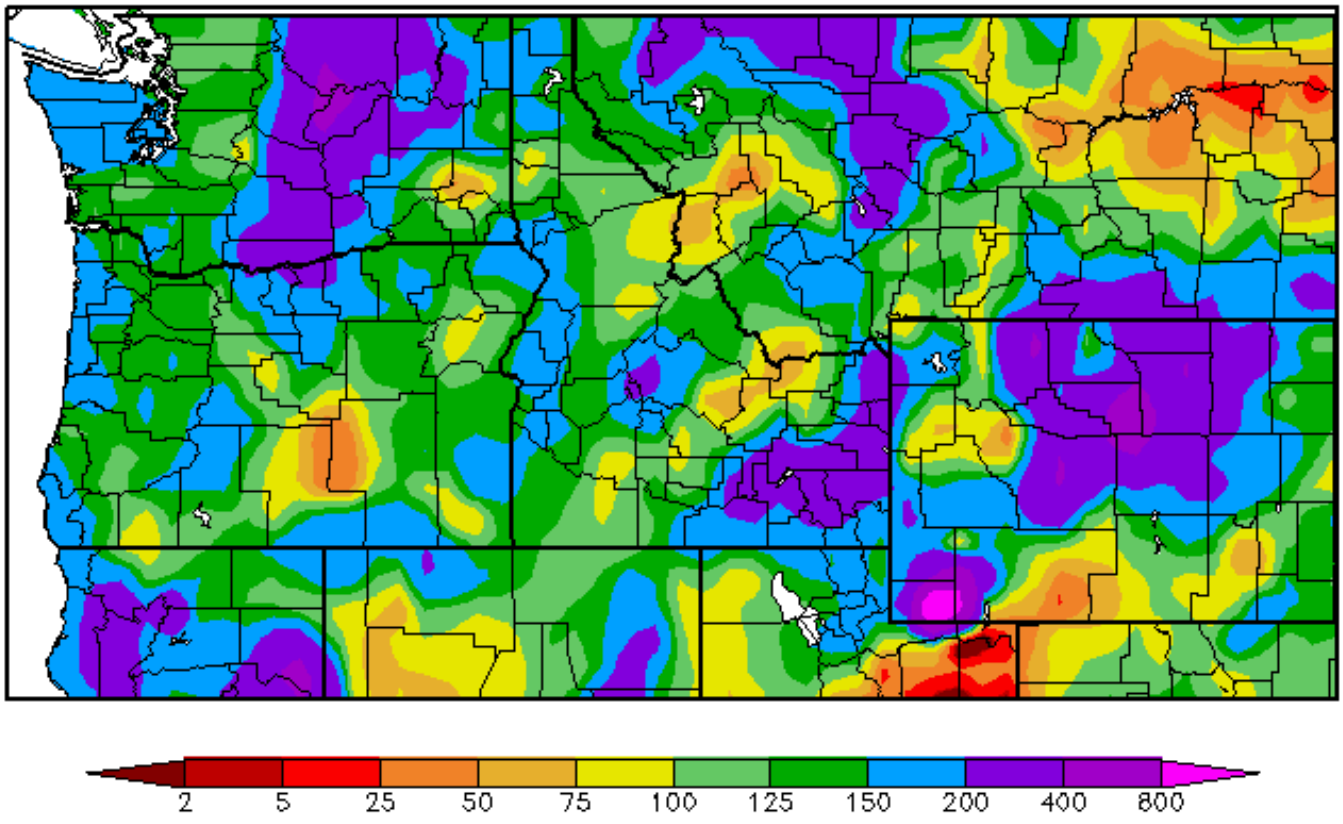


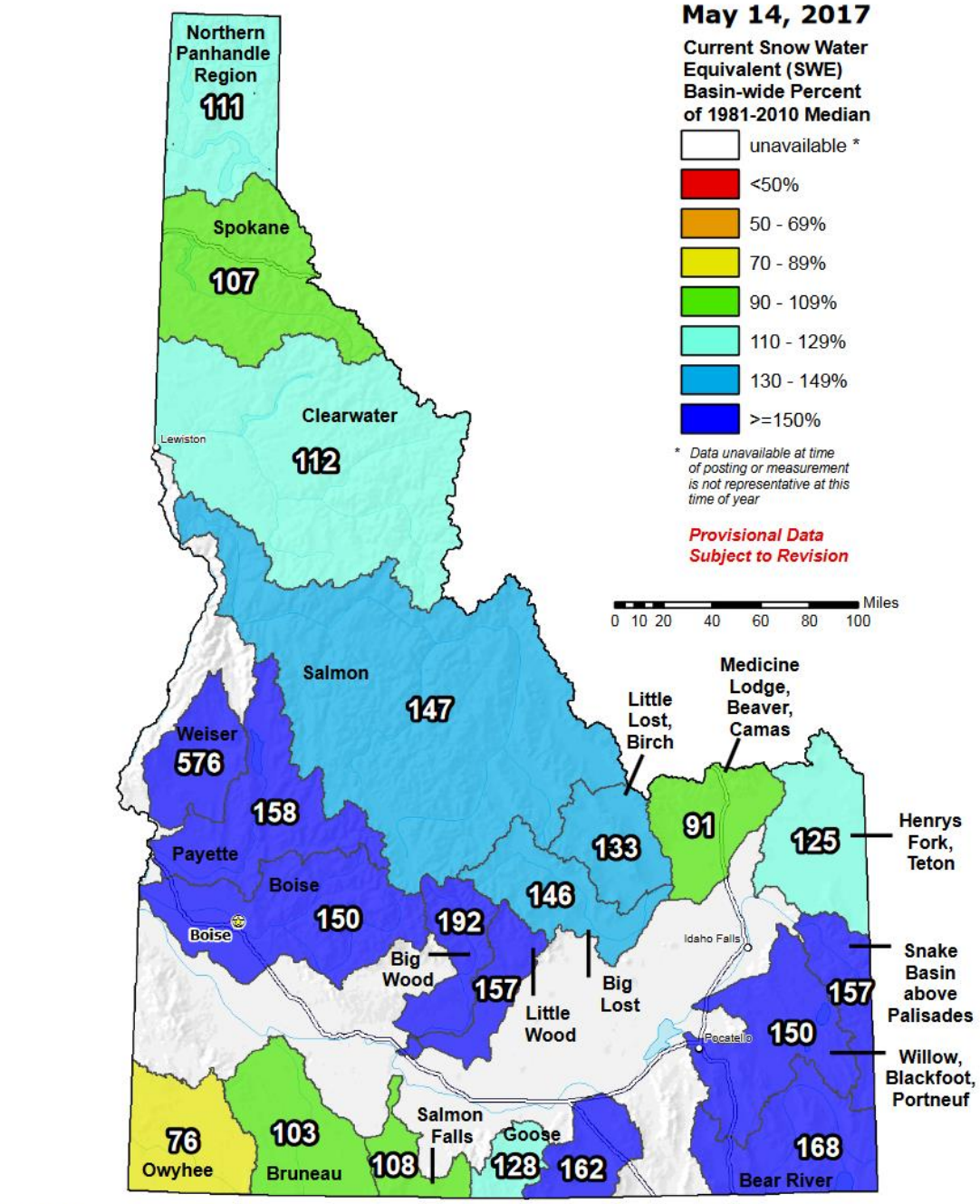
SNOTEL MTD % of Normal Precipitation for middle of May 2017
(image is cropped from above image)

Percent of Normal Precipitation (%)
4/1/2017 – 4/30/2017



Our most Eastern, Southern and Northwestern areas received 150 to 400 precent of normal percipitation. Blaine and Lincoln counties, for the most part, received 100 to 125 percent of normal. Butte, Eastern Custer, and Clark counties were the low spots, receiving 50 to 75 percent of normal.

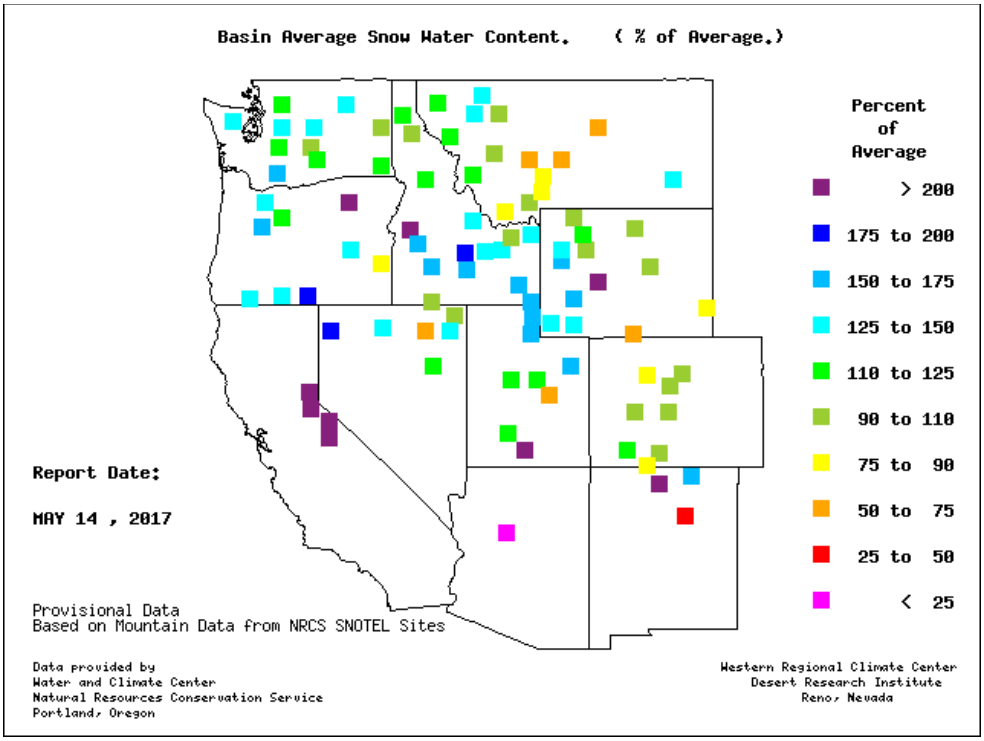
Idaho SNOTEL Current Snow Water Equivalent (SWE) % of Normal



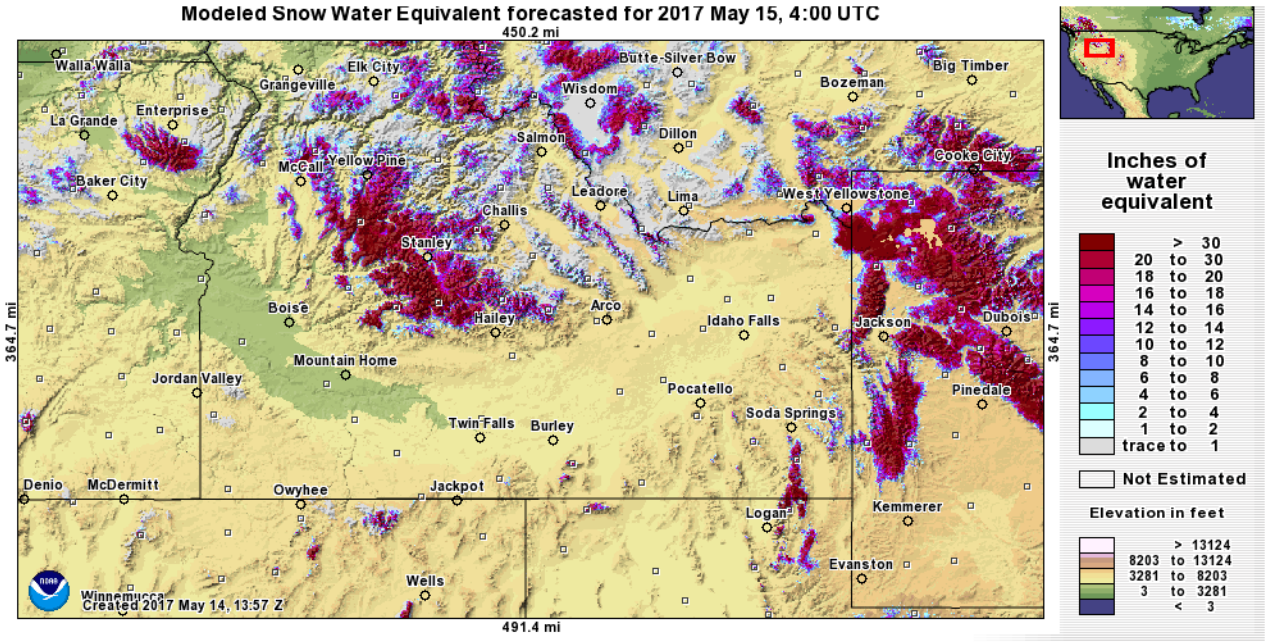
The snow water equivalent percent of normal represents the current snow water equivalent found at selected SNOTEL sites in or near the basin compared to the average value for those sites on this day. Data based on the first reading of the day (typically 00:00).

Prepared by:
USDA/NRCS National Water and Climate Center
Portland, Oregon
http://www.wcc.nrcs.usda.gov

www.wcc.nrcs.usda.gov/ftpref/data/water/wcs/gis/maps/id_swepctnormal_update.pdf



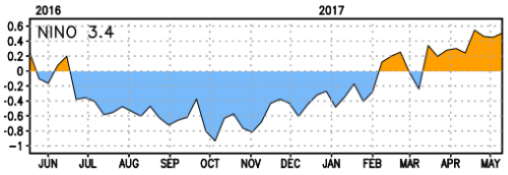
www.wrcc.dri.edu/snotelanom/basinswe.html



www.nohrsc.noaa.gov/interactive/html/map.html

ENSO Update:

Latest Observed SST Departure: Niño 3.4 ~ 0.5 Deg C



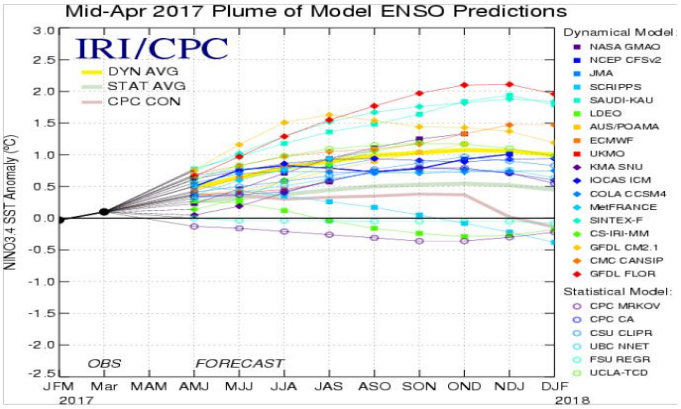


Figure provided by the International Research Institute (IRI) for Climate and Society (updated 18 April 2017).

www.cpc.ncep.noaa.gov, **iri.columbia.edu/climate/ENSO** ***and***

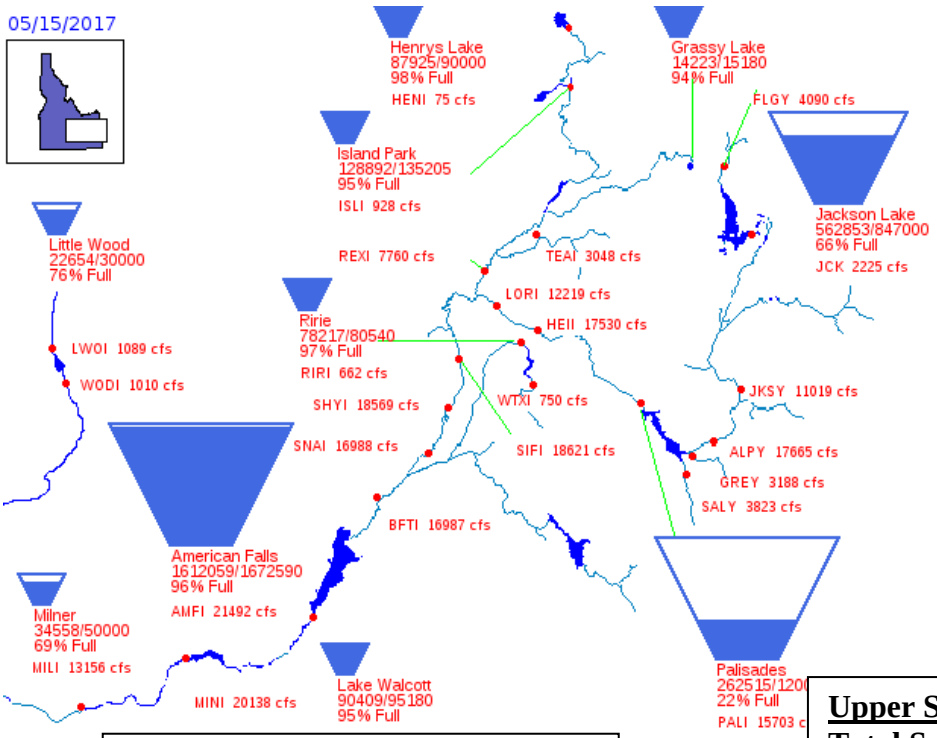
CPC Synopsis: ENSO-neutral conditions are present. ENSO-neutral and El Nino are nearly equally favored during the Northern Hemisphere summer and fall 2017.

Note: Equatorial sea surface (SSTs) are near-to-above average across most of the Pacific Ocean. Dynamical model RMM index forecasts generally indicate some eastward propagation, through the next week. Some models significantly weaken the MJO signal. All of the models imply enhanced convection over the Indian Ocean and Maritime Continent, regardless of predicted amplitude of the MJO. The Pacific Decadal Oscillation (PDO) remains slightly positive, increasing slightly.

Reservoirs:

Reservoir	% Capacity March 31[1]	% Capacity April 30[2]	Percent Change	% of Average[2]	% of Average Last Year[2]
Jackson Lake	63	55	-8	104	141
Palisades	33	24	-9	37	126
Henrys Lake	97	98	1	106	101
Island Park	86	95	9	104	106
Grassy Lake	89	88	-1	104	110
Ririe	79	93	4	128	137
Blackfoot	82	94	12	150	115
American Falls	87	96	9	105	96
Mackay	46	37	-9	51	122
Little Wood	43	40	-3	59	107
Magic	97	95	-2	142	124
Oakley	62	75	13	166	79
Bear Lake	51	68	17	136	85
Lake Walcott	93[3]	95[4]	2	n/a	n/a
Milner	69[3]	69[4]	0	n/a	n/a

Source: (1) NRCS March 31, 2017; (2) NRCS April 30, 2017.
(3) US Bureau of Reclamation (BOR) April 12, 2017 (4) BOR May 15, 2017

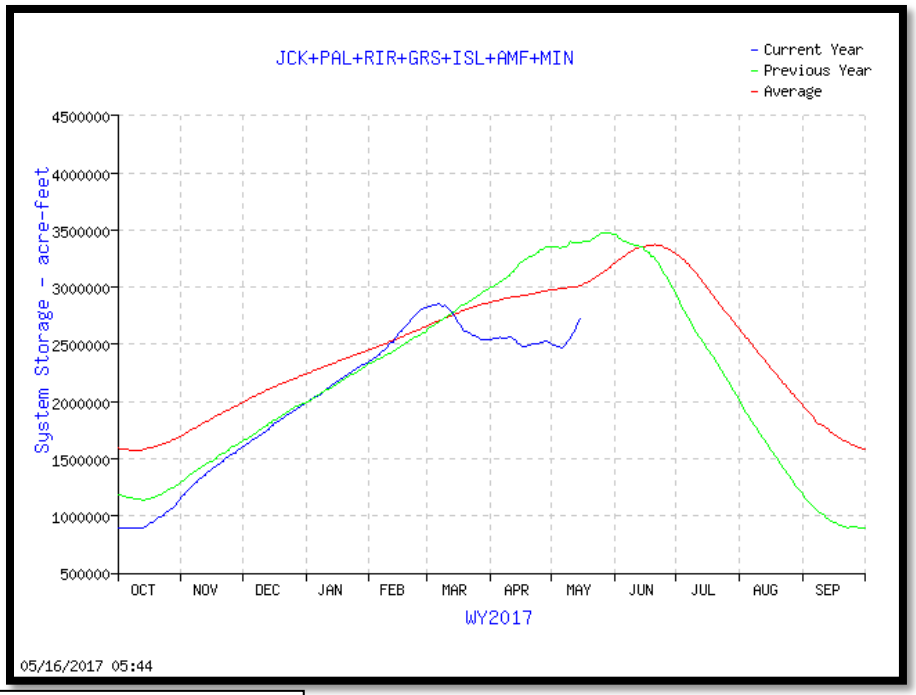


www.usbr.gov/pn/hydromet/burtea.html

68% of Capacity in Upper Snake River System
(Jackson Lake, Palisades, Grassy Lake, Island Park, Ririe, American Falls & Lake Walcott)

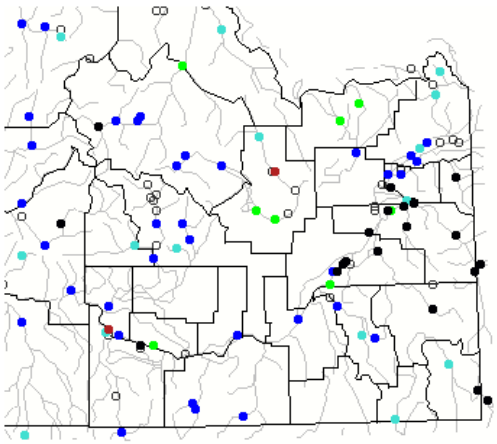
Upper Snake River:
Total Space Available: 1,296,526AF
Total Storage Capacity: 4,045,695 AF

Graph of Upper Snake River Current Total System Reservoir Storage



https://www.usbr.gov/pn-bin/graphwy.pl?snasys_af

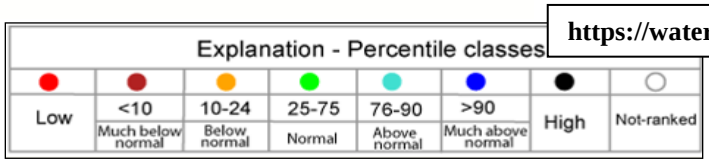
Streamflow:

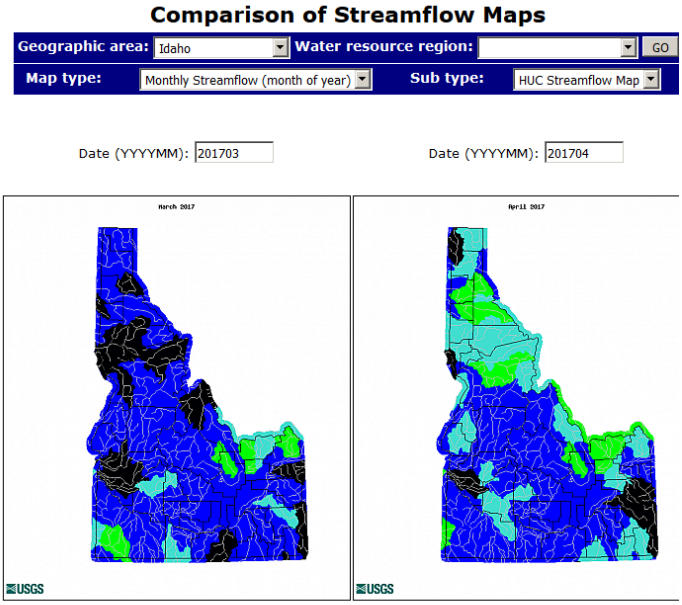


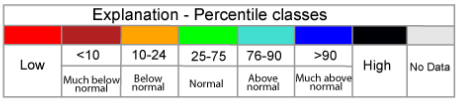
Monthly average streamflow compared to historical average streamflow for April 2017.

USGS

https://waterwatch.usgs.gov/index.php?r=id&id=mv01d



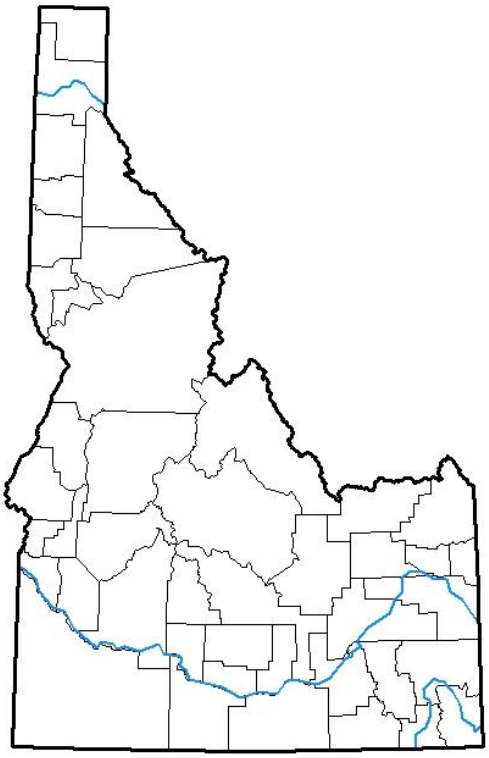




http://waterwatch.usgs.gov/index.php?id=wwchart_map2

Drought:

U.S. Drought Monitor
Idaho



May 9, 2017
(Released Thursday, May. 11, 2017)
Valid 8 a.m. EDT

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	100.00	0.00	0.00	0.00	0.00	0.00
Last Week *05-02-2017*	100.00	0.00	0.00	0.00	0.00	0.00
3 Months Ago *02-07-2017*	98.13	1.87	0.04	0.00	0.00	0.00
Start of Calendar Year *01-03-2017*	89.98	10.02	0.04	0.00	0.00	0.00
Start of Water Year *09-27-2016*	6.14	93.86	8.89	0.00	0.00	0.00
One Year Ago *05-10-2016*	92.41	7.59	0.00	0.00	0.00	0.00

Intensity:

- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

Author:
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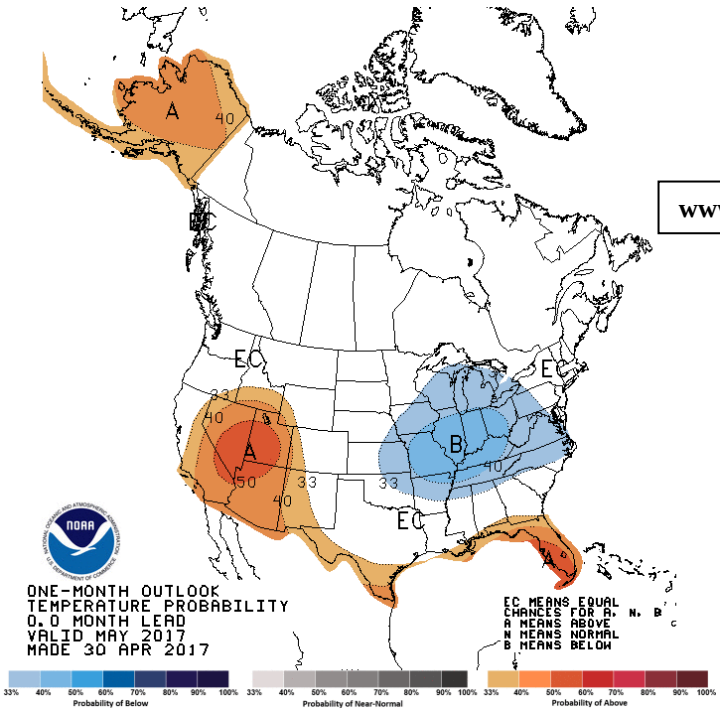
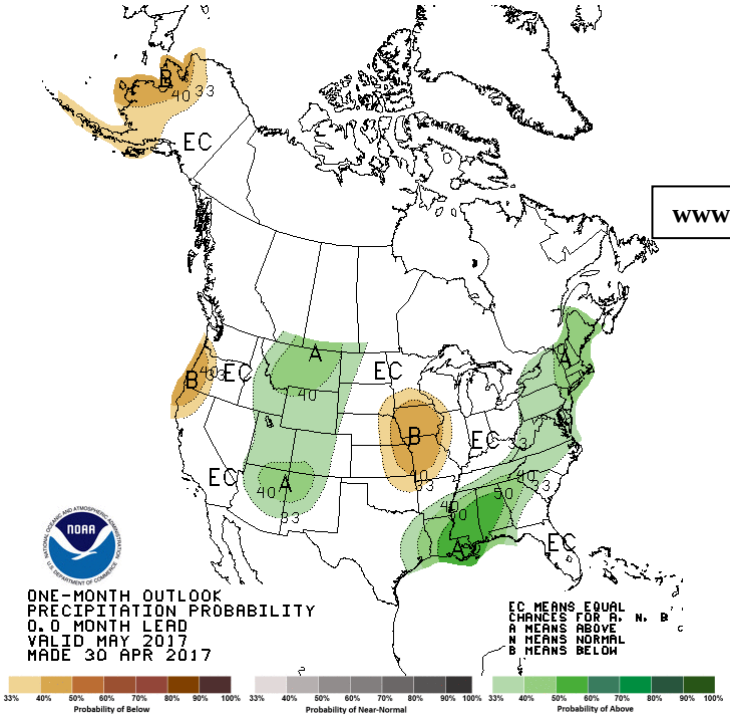
National Drought Mitigation Center

http://droughtmonitor.unl.edu/



www.cpc.ncep.noaa.gov/products/predictions/30day/off15_temp.gif



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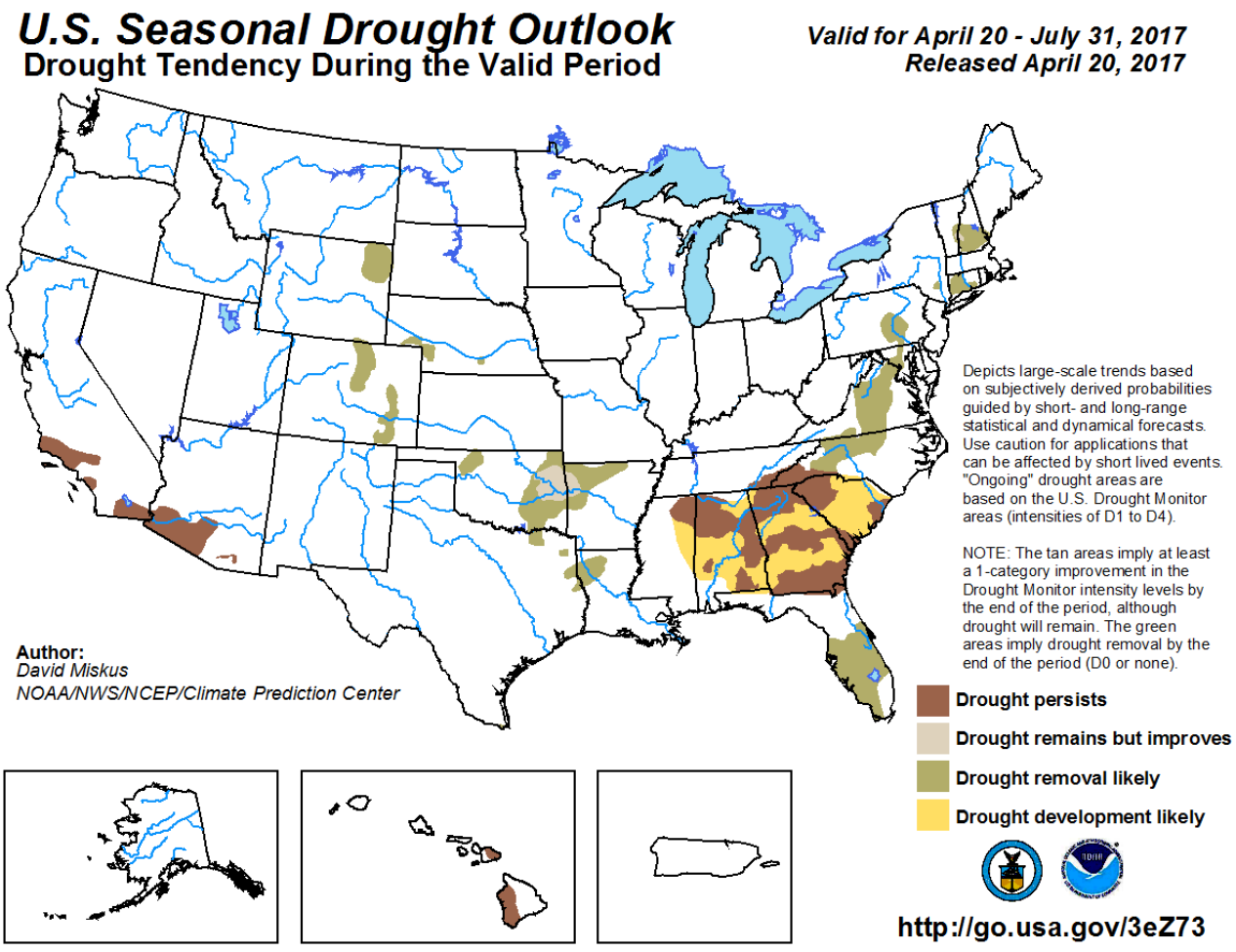

www.cpc.ncep.noaa.gov/products/expert_assessment/season_drought.png

cc:

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PIH Mets/HMT (pih.ops)

End

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